3/9/89

PROJECT "ZIFO"

ANDREA -

BOTH DISK AND HARD COPY ENCLOSED, HERE'S WHAT I NEED (IN THE ABSENCE OF YOUR "WORK ORDER" FORM):

BY 10:00, MONDAY 3/13

- TAKE MY MS WORD FILE ON DISK ("ESP2 REPT. M$9") AND TURN IT INTO BULLETED OVERHEAD FOIL PAGES

NEW SOFTWARE CREATES FIRST DRAFT IN OUTLINE FORMAT ONLY THEN IT GOES DIRECLY INTO BORDERS

- FOR 10:00 MONDAY, HARD-COPY DRAFTS ONLY:
  - NO "INPUT" BORDER FOR THIS FIRST DRAFT
  - YES, USE "EXHIBIT # 3/9/__" ON BOTTOM OF EACH PAGE (DID NOT COME OVER IN TRANSLATION) ON LOWER LEFT FOR TRACKING; FINAL-NUMBERING WILL WAIT FOR SECOND DRAFT
  - PLEASE USE THE TYPE-SIZE AND FORMAT "STANDARDS" FOR HEADINGS, BULLETS, AND SUB-BULLETS THAT WE FINALLY SETTLED ON FOR "ZESP" Why?
  - ON HEADINGS, TRY TO MAINTAIN MY LINE-TO-LINE BREAKS, EVEN IF THEY "LOOK ODD"
  - TRY TO MAINTAIN MY LINE SPACING

PROPORTIONS TOO (4 BLANK LINES IN SOME PLACES, 3 IN OTHERS, 1 IN OTHERS), AS RECORDED ON MY MS WORD DISK

- PLEASE HAVE A TROUBLEREADER MARK-UP THE FIRST DRAFT HARDCOPY, BUT PLEASE DO NOT MAKE THOSE CHANGES UNTIL I REVIEW THEM ON MONDAY

AFTER MONDAY REVIEW, BY 5:00 TUESDAY 3/14

- ENTER TEXTUAL CORRECTIONS/CHANGES (FROM 3/13 REVIEW)
- ADD "INPUT" BORDER FOR OVERHEADS
- REVISE LOWER-LEFT "EXHIBIT #5," AS WILL BE MARKED UP 3/13
- FINAL-PROOF AND CORRECT AS REQUIRED (I WILL NOT BE IN ~~THE~~ THE OFFICE TUESDAY)
- PRODUCTION: ONE SET OF OVERHEAD FOILS
- PRODUCTION: ~~ONE SET~~ 12 SETS OF PRINTED REPORTS:
  - -- DUPLICATES OF FOIL PAGES
  - -- BOUND
  - -- AS FOR "ZESP" REPORT (BUT BE SURE, PLEASE, THAT TITLE "FITS" INTO THE

PRE-CUT INPUT-COVER WINDOW BETTER THAN IT DID ON "ZESP")

- PLEASE DELIVER ALL TO DENNY WHITE BY 5:00 TUESDAY, 3/14, FOR CLIENT PRESENTATION AT 9:00 ON 3/15

THANKS, ANDREA. I HOPE THAT'S ALL CLEAR.

— ROD ELMORE

Knowledge Base Systems: Focus on Users of Aion - ADS

March 15, 1989

INPUT®

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INPUT Researched Three Sets of Questions Related to Aion - ADS

1. Transaction processing use
2. Application migration
3. Language

1. Transaction Processing Use

- Use of Aion - ADS under IMS or CICS
- Aion - ADS transaction processing impacts

2. Application Migration

- Former environment for application(s)
- Experience migrating applications into Aion - ADS

3. Language

- Completeness of Aion - ADS
- User's preferred "standard" languages
- User outlook for C
- Interest in knowledge base "add-on" option

Methodology

- Conducted by INPUT
  - International market research and consulting firm
  - First-stage study (2/1/89 report): Four knowledge base systems
  - This stage: Focus on Aion - ADS
- Telephone interviews, 5 to 20 minutes each
  - February 1989
  - Over 50 questions total, all 3 subjects
- Started with 10 first-stage study interviewees, other contacts
- Contacted a total of 35 firms that use Aion - ADS
  - Mostly in financial services

Firms Contacted

Financial Services	Other Industries
Allstate	American Management Systems
American Family	Amoco
Chrysler Financial	Andersen Consulting
Chubb	Boole & Babbage
Cigna	Caterpillar Tractor
Continental Bank	Chevron
Employers Reinsurance	Crawley Maritime
Equitable	Lincoln National
General Reinsurance	Lubrizol
Merrill Lynch	Northern Telecom
Metropolitan Life	Norton Company
New York Life	Pacific Bell
Northern Trust	Shell
Prudential	Southwestern Bell
Royal Bank	Texas Instruments
Shearson Lehman	TWA
St. Paul	York International
Sun Trust	

1. Analysis of Transaction Processing Questions

PC-Environment Experience Dominates

- Aion - ADS users develop on the PC
- Some firms: Only development, thus far
  - Estimate 25% to 50% of users
- Many: PC-based, post-development production or testing
  - Estimate 75% to 50% of users
  - Application often too big for 640K PC

Also Significant: TSO and Batch on the Mainframe

- Some Aion - ADS users are testing under TSO
  - Many are still early in testing process
- Some are in batch production
  - Generally with database(s)
- TSO and batch, total: Estimate 25% of users

Very Little
IMS or CICS Production

- Very few are in IMS or CICS mainframe production
  - Estimate only 5% to 10% of Aion - ADS users
  - This sample: Only 2 of 35 firms
- Limited IMS or CICS testing
  - Estimate up to 20% of users
  - Some are testing application(s)
  - Some are testing the Aion - ADS environment

Others: Relatively Uncertain IMS or CICS Plans

- Some other Aion - ADS users have IMS or CICS plans
  - 1989 or 1990 timeframe
  - Some plan to use for production
  - Some plan to just try out environment
  - Total, all plans: Estimate 20% to 40% of users
- Note: Most "plans" are relatively uncertain

Conclusion: Aion - ADS Users Redefine "Production"

- First-stage study: "...two-thirds of Aion - ADS applications are in production..."
- But often "production" is PC-based
- Sometimes, "production" is batch
- Rarely (yet) is production IMS or CICS
- Most plans for IMS or CICS are uncertain

Transaction Processing Service-Level Impacts: No Useful Data Found

- Transaction levels are too low for significant impacts
- Example 1: Preparation for only 20 simultaneous users of Aion - ADS
  - Transaction environment normally handles 200-plus
  - Aion - ADS: Not reached even close to 20 yet
- Example 2: From Aion - ADS, just 100 DB2 updates per hour

Two Other Mainframe Issues

- Aion - ADS "High Performance Option"
  - No production use found
- Adding Aion - ADS capabilities to established IMS or CICS applications
  - No experience found

DB2 Data Base Access Is Important to Each IMS or CICS Production Application

- But transaction volumes are very low
- Thus, no service-level impacts are seen yet

2. Analysis of Application Migration Questions

25% of Users Have Migrated an Application to Aion - ADS, Mostly from IBM - ESE

- 9 of 35 have migrated one or more applications
- 5 of 9 migrated from IBM - ESE
- Others:
  - From Texas Instruments - Personal Consultant
  - From Intellicorp - KEE
  - From Teknowledge - M1

Vitually All Migrations Were Successful, Easy, and Fast

- Language facilities of Aion - ADS proved very adequate
- Expert-level knowledge proved "reusable"
- "Re-creation" of rules (mostly retyping) was straightforward
- No "translation tools," but no problem perceived

Aion - ADS Repeatedly Proved Superior in Migrations

- Almost always provided improved capabilities
- Aion support: Universally excellent
- No redesigns of knowledge-base structure due to any Aion - ADS limitations
- New capabilities led to some redesigns, many economies
- Some redesigns from "learning curve"

3. Analysis of Language Questions

Virtually All Users of Aion - ADS Are Strong COBOL Shops

- Only 1 of 12 are "weak" in COBOL
- Some are also strong in C or PL/I or Assembler
- Skill and experience in C is very mixed
  - 50%: Moderate in C
  - 25%: Strong in C
  - 25%: Weak in C

Half of Aion - ADS Users Expect C To Be Stronger at their Firm in the 1990s

- Half: C's advantages will make it more important
  - Common environment, multiple platforms
  - Portability
  - Flexibility, even with UNIX
- C is not likely to displace COBOL, however

Aion - ADS Is Judged a Very Efficient Development Environment

- Typical: "Vastly more efficient than COBOL"
- Efficiency estimates are very high
  - Aion - ADS vs. COBOL or C
  - Some estimate a factor of 2 to 1
  - Some: 10 to 1
- Some see Aion - ADS as a general-purpose development environment
- One (former) problem: Application redesign to fit 640K PC, for production

Those with "Production Experience" Judge Performance Comparable to Standard Languages

- Note: Aion - ADS "production" often limited to PC
- Typical responses: Performance "acceptable" or "OK"
- Many acknowledge no production experience

Programmers or Analysts Easily Learn Aion - ADS, but Must "Change Mindset"

- Almost all use programmers or analysts, not "non-DPers"
- Mindset change required: "Stop focusing on data, start focusing on structure"
- Must "unlearn" procedural approach
- Must develop new skill: Knowledge extraction
- Bottom line: New mindset is a desirable change

Built-in Data Base Access Functions Are Effective for Many

- Fewer than half use built-in Aion - ADS functions for data base access
- Only minor, solvable problems encountered
- SQL/DB2 access is very smooth

Math and Logic Functions Mostly Work Fine

- Fewer than half use them
  - Examples: Maximum, minimum, square root
- A few minor problems with bug in rounding function
- Otherwise functions work fine

Virtually All Users of Aion - ADS Want Math and Logic Functions To Be Built In

- Option presented: Built in or escape
- 5 to 1 ratio: Prefer built-in functions, not escapes
  - Convenience: "Work in one environment"
  - Maintain key Aion - ADS advantage: "Stay focused on the business problem"
  - Ease of learning
  - Ease of maintenance

Aion - ADS Required
Virtually No Call Outs

- Half of sample: No call outs used
- Half of sample used call outs for convenience
  - Mainly to re-use existing COBOL or C routines
  - Examples: File access, standard tables
  - A few: Heavy-calculation functions
- Call out required in one case only
  - VTAM file access

Question: Would You Prefer "Callable" Access to KB Functions?

- Question: Compared to Aion - ADS, would you prefer a "callable" access to knowledge base functions from "standard" languages?
- Similar to SQL: A "Knowledge Base Query Language"

Half of Aion - ADS Users Want a "Callable" Access to KB Functions

- Roughly half generally prefer the single, integrated environment of Aion - ADS
- Other half: Prefer access to knowledge base functions from standard language(s)
  - "Would provide better integration with existing applications"
  - Could leverage current language strengths
  - One firm: Already accessing Aion - ADS from COBOL
- A few from each half: Some use for each
  - Depending on "main intent" of application
  - Aion - ADS if primarily a knowledge base
  - "Callable access" if primarily procedural or computational
- Strategic opportunity: Sell to half of Aion - ADS users with the "end run" of "KBQL"

About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

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